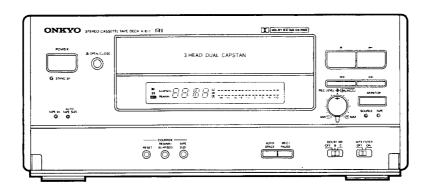


K-611

Stereo Cassette Tape Deck

Instruction Manual



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Thankyou for your purchase of the Onkyo

K-611 Cassette Tape Deck. Please read this manual thoroughly before making connections and turning power on. Follow these instructions to obtain optimum performance and maximum listening enjoyment from your new K-611. Please retain this manual for future reference.

Features

■ Three-Motor, Closed-Loop Dual Capstan Drive
A 3-motor system lets each motor be optimized for specific
tasks, giving you higher performance and longer-lasting
reliability. They prevent reel motion irregularities from reaching the head area and virtually eliminate audible wavering,
commonly known as wow & flutter. The closed-loop system
applies exactly the right amount of tape tension for optimum
tape-to-head contact and more accurate tape speed.

■ Discrete, 3-Head Design with PC-OCC Wire-Head Windings

Separate heads, one optimized for recording and the other designed for playback (all decks must use a separate erase head), yield the widest frequency response. They also allow you to monitor the tape as it's being recorded, and thus make any needed corrections immediately. The PC-OCC (pure copper by Ohno continuous casting) heads give you the highest purity possible, optimizing high-frequency recording and playback performance.

■ AI Real-Time Counter

The 4-digit AI real-time counter shows in minutes and seconds the elapsed time or remaining time of your cassette, simplifying dubbing and other editing operations.

■ Multiplex Filter with ON/OFF Switch

The switchable MPX filter assures you of proper Dolby operation when you record FM multiplex stereo broadcasts, and optimum sound quality when recording anything else.

- Dolby HX Pro headroom extension system
- Power-glide loading (via remote or front panel)
- Auto-tape selector
- Auto space & rec mute
- Skip function
- CD synchro recording

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation.

HX Pro originated by Bang and Olufsen. "Dolby," the double-D symbol and "HX Pro" are trademarks of Dolby Laboratories Licensing Corporation.

FOR CANADIAN MODEL: (POUR LE MODELE CANADIEN:)

• For models having a power cord with a polarized plug **CAUTION:**

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

• Sur les modèles don't la fiche est polarisée

ATTENTION:

POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQ'AU FOND.

ATTENTION FOR BRITISH MODEL:

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

IMPORTANT: The wires in the mains lead are colored in accordance with the following code:

Blue: Neutral Brown: Live

As the colors of the wires in the mains lead of this unit may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The wire which is colored blue must be connected to the terminal which is marked with the letter N or colored black.

The wire which is colored brown must be connected to the terminal which is marked with the letter L or colored red.

This apparatus complies with requirements of EC directive 87/308/EEC.

Supplied accessories

- 1 Remote control cable
- 2 Audio connection cable





WARNING

"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

CAUTION

"TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."



CAUTION RISK OF ELECTRIC SHOCK





The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to a ert the user to the presence of uninsulated "danger ous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Safeguards

- Read Instructions All the safety and operating instructions should be read before the appliance is operated.
- Retain Instructions The safety and operating instructions should be retained for future reference.
- Heed Warnings All warnings on the appliance and in the operating instructions should be adhered to.
- Follow Instructions All operating and use instructions should be followed.
- 5. Water and Moisture The appliance should not be used near water for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
- Carts and Stands The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn. PORTABLE CART WARNING



- Wall or Ceiling Mounting The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 8. Ventilation The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- Heat The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- 10. Power Sources The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
- 11. Polarization— If the appliace is provided with a polarized plug having one blade wider than the other, please read the following information: The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
- 12. Power-Cord Protection Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cords at plugs, convenience receptacles, and the point where they exit from the appliance.
- Cleaning The appliance should be cleaned only as recommended by the manufacturer.
- 14. Nonuse Periods The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
- Object and Liquid Entry Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
- 16. Damage Requiring Service The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped or the enclosure damaged.
- 17. Servicing The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Precautions

1. Warranty Card

The serial number is written on the rear panel of this unit. (Copy the serial number and model number onto your warranty card and keep it in a safe place.)

2. Recording Copyright

Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

3. Deck Location

- Do not use or leave in direct sunlight or in other places subject to high temperature and humidity. The unit should also not be left in potentially hot places such as near heating appliances. Excessive heat and moisture can lead to internal damage and serious malfunctions (this also applies to cassette tapes). The recommended ambient temperature range is 5°C to 35°C.
- Avoid damp and dusty places and locations prone to vibrations.
- Be extremely careful with the recording/playback heads.
 Clean and demagnetize them regularly, but under no circumstances should magnets or other metals be used anywhere near the heads.
- This unit is extremely sensitive to magnetic fields, so do not use near large speakers or other devices which generate magnetic fields.
- Hum may even be induced by magnetic flux leakage from the power transformer in certain amplifiers. Therefore, this unit should also be kept clear of the amplifier.
- Do not remove the cabinet case. If any of the internal parts are handled, there is a considerable danger of electric shock.

4. Cassettes to Avoid:

- Cassettes with poorly formed cases that rattle during rewind and fast forward.
- Low cost cassettes with no guide roller or pressure pad spring should never be used for stereo.
- C-120 cassettes—because the tape and the coating are extremely thin, distortion levels are high. Also, even a slight stretching of the tape will make it susceptible to being caught up in the pinch roller and capstan.
- Endless tapes, if used for a long period of time, can overheat.

5. Power

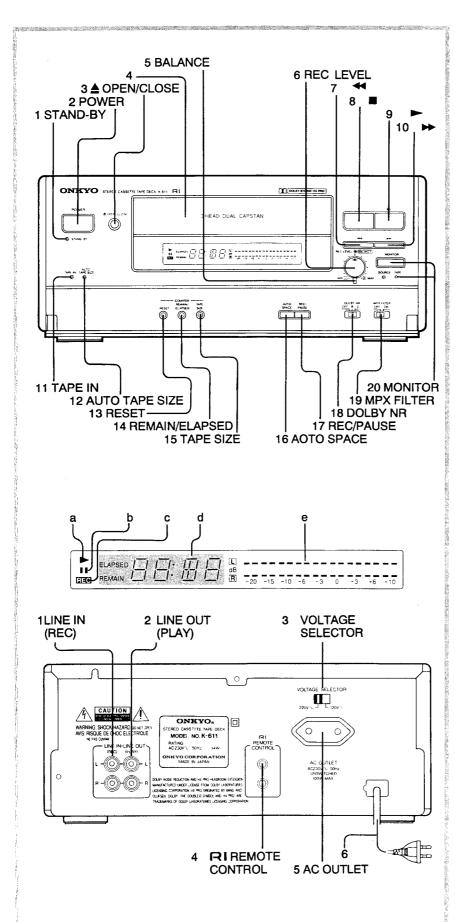
WARNING

BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

- Some models are designed for use only with the power supply voltage of the region where they are sold.

 U.K. and Australian models: AC 240V, 50Hz
 European models: AC 230V, 50Hz
 U.S.A. and Canadian models: AC 120V, 60Hz
 Worldwide models: AC 120 and 220V
 switchable, 50/60Hz
- Voltage Selector (Rear Panel)
 Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the power supply in your area before plugging in the unit (See "Setting the Voltage Selector [World wide Models Only]", P. 5). Models without a voltage selector can only be used in areas where the power supply voltage is the same as that of the unit.

Control Positions and Names



If there is a protective film on the surface of the display, which is making it difficult to read the display, remove it.

For more information about a button or control, turn to the page number listed in square brackets [].

Front Panel

- 1 STAND-BY Indicator [5]
- 2 POWER Button [5]
- 3 OPEN/CLOSE Button [6]
- 4 Cassette Holder
- 5 BALANCE Knob [11]
- 6 Recording Level Control Knob [11]
- 7 Rewind Button [7]
- 8 Stop Button [6]
- 9 Play Button [6]
- 10 Fast Forward Button [7]
- 11 TAPE IN Indicator [6]
- 12 AUTO TAPE SIZE Indicator [9]
- 13 RESET Button [8]
- 14 REMAIN/ELAPSED Time Button [8, 9]
- 15 TAPE SIZE Button [8, 9]
- 16 AUTO SPACE Button [12]
- 17 REC/PAUSE Button [10]
- 18 DOLBY NR Button [6, 10, 11]
- 19 MPX Filter Switch [11]
- 20 MONITOR Switch [12]

Display

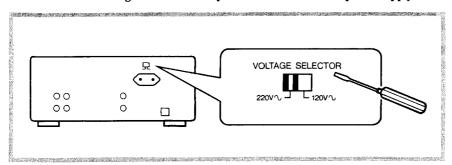
- a Play Indicator
- b Pause Indicator
- c Recording Indicator
- d Real Time Counter
- e Peak Level Indicator

Rear Panel

- 1 Line in Jack [5]
- 2 Line out Jack [5]
- 3 Voltage Selector [5]
- 4 Remote Control Jacks [13]
- 5 AC Outlets [5]
- 6 Power Supply Cord [5]

Setting the Voltage Selector (Worldwide Models Only)

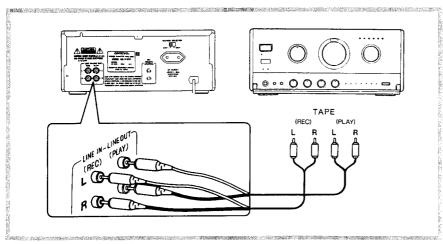
Models without a voltage selector can only used in areas where the power supply is the same as that of the cassette deck.



- 1. Determine the proper voltage for your area: 220V or 120V.
- 2. If the preset voltage is not proper for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220V), whichever is appropriate.

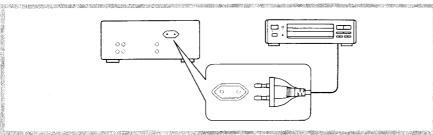
Making System Connections

- Do not plug in the power cord until all connections have been made.
- On each pair of input or output jacks, the lower jack (marked R) corresponds to the right channel, and the upper jack (marked L) to the left channel. Also refer to the amplifier's instruction manual for further information on connections.



Connecting to an Amplifler

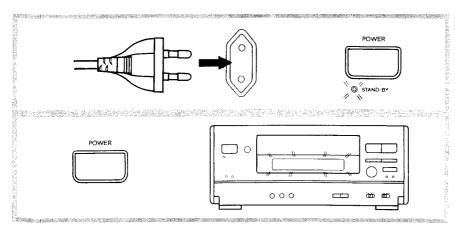
Connect the tape deck LINE IN jacks to the TAPE REC jacks on the rear panel of the amplifier and the tape deck LINE OUT jacks to the amplifier TAPE PLAY jacks. Also refer to the amplifier's instruction manual for further information on connections.



AC Outlets (UNSWITCHED)

The power cords of other components may be plugged into these outlets. Their maximum capacity is 100 watts.

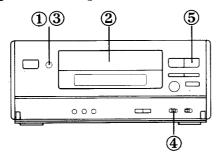
Power Connections

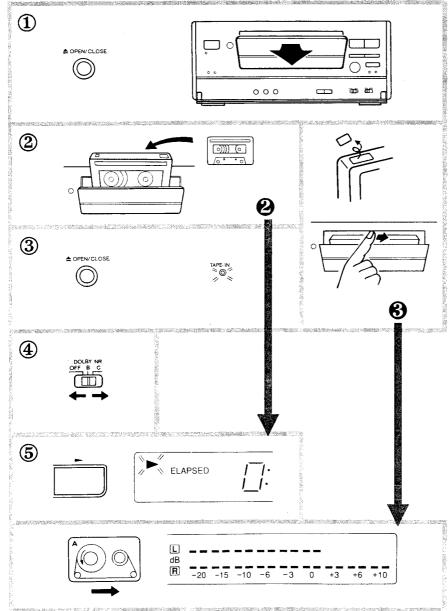


Switching Power On

- 1. Plug the AC power cord into a wall outlet. The STAND-BY indicator lights.
- 2. Press the POWER button. The STAND-BY indicator goes out and the display illuminates.
- Pressing the POWER or OPEN/CLOSE button when the unit is in standby status will also cause the display to illuminate.
- If the tape deck is plugged into the amplifier's AC outlet, the amplifier's AC power cord must be plugged into a wall outlet and its power switched on before the tape deck will operate.

To Play a Tape





Listening to a Tape

- ① Open the cassette holder.
- 2 Insert a cassette.
- The portion of the cassette where the tape is exposed sholud be facing downward and the side on which you wish to play facing outward.
- 3 Close the cassette holder.
- Set the Dolby NR switch to the proper position.

Set the switch to the B position if the cassette to be played was recorded using Dolby B NR. Use the C position if the cassette was recorded using Dolby C NR.

Start Play

The auto-stop mechanism will automatically stop tape transport if a tape is played through to the end.

- If the Play button is pressed after inserting a cassette into the holder, the cassette door will close automatically and play will begin at once.
- When a cassette with the erasure prevention tabs broken off (refer to page 14, "Handling Cassette Tapes" for details) or a commercially produced pre-recorded tape is loaded and the cassette pushed lightly, the play indicator flashes on and off and then play begins automatically. This capability is called the Auto Play function. If the cassette door is left open for more than approximately five minutes, it closes automatically. In this case the Auto Play function does not operate.

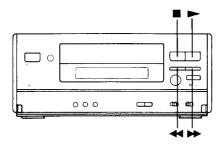
Automatic Tape Selection System

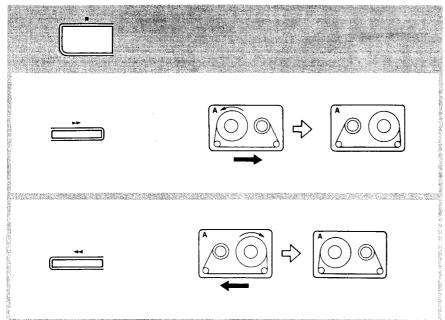
This deck automatically detects the type of cassette in the cassette holder and sets the bias and equalization to the correct settings. Tape selection is performed by detecting the presence or absence of identification pits on the back of the cassette shell. Cassettes manufactured before this identification system was adopted and bargain cassettes that do not incorporate these pits cannot be used with this deck.



Press the stop button.



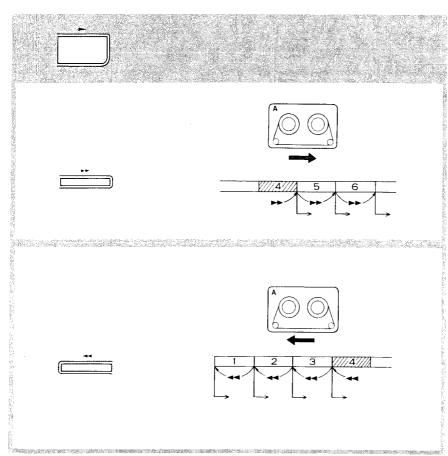




Fast Forward and Rewind

Make sure the unit is in the stop mode before using the fast forward or rewind function.

 To stop either fast forward or rewind, press the button.



Skipping to the Next Selection

The tape must be playing in order to use this function.

Press the ▶ button to skip ahead to the next selection. It is possible to skip up to 15 selections at one time. The number of selections skipped is indicated by the display (P:1, P:2 ... P:15).

Skipping to the Beginning of the Current Selection or a Preceding Selection

The tape must be playing in order to use this function.

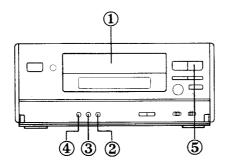
Press the \blacktriangleleft button to skip back to the beginning of the currently playing selection or preceding selections. The number of selections skipped is indicated by the display.

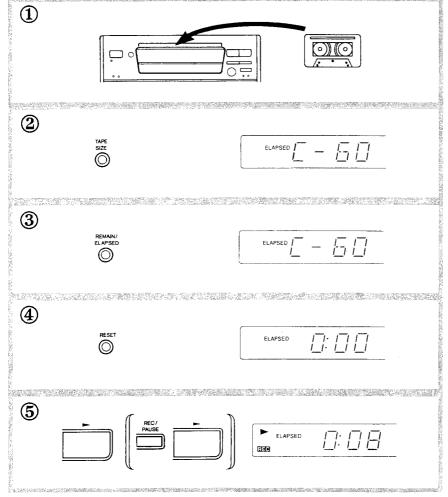
Note:

The Skip function operates by detecting the sections on the tape between selections where nothing is recorded. Therefore, it may not operate properly under circumstances such as the following:

- 1) If the blank sections between selections are too short.
- 2) If the music is not continuous, being interrupted by narration, etc.
- 3) If there are places in the music that could be mistaken for breaks below een selections, such as soft sections im mediately followed by loud sections.
- 4) If there is excessive noise in the portions between selections.

Real Time Counter





Determining the Elapsed Tape Running Time (ELAPSED)

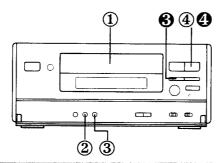
- 1 Insert a cassette.
- 2 Enter the size (duration) of the new cassette.

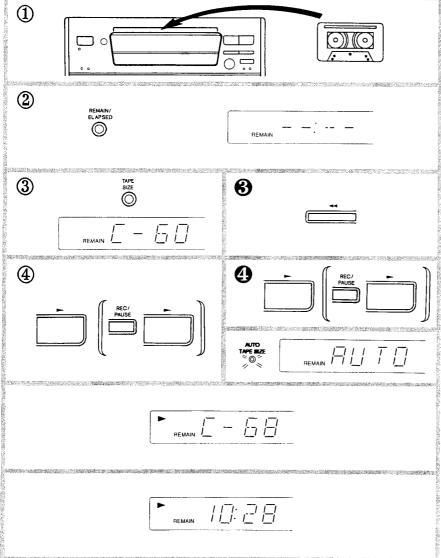
Each press advances the TAPE SIZE indicator in order from C46 to C50, C54, C60, C64, C70, C74, C90, C100, C120 and then back to C46.

- Switch the Real Time Counter to the "ELAPSED" time mode.
- **Reset the Real Time Counter.**
- Segin tape transport in the record or play mode.

play mode.
The counter will begin counting the elapsed time. (If you turn the cassette over without resetting the counter, the total time including the firstside will be displayed.)

The two digits on the left display minutes and the two digits on the right display seconds.





Determining the Remaining Tape Running Time (REMAIN)

- ① Insert a cassette
- Switch the Real Time Counter to the "REMAIN" (remaining) time mode. Set the proper tape length.
- Begin playback or recording.
- The Real Time counter will display the tape size flashing for a few seconds, then the time remaining on the cassette (based on the tape size setting) will be displayed.
- tape.
- After the auto stop function halts the tape at the end and play or recording recommences on the new side, the deck automatically detects the tape size.

To Check the Tape Size Setting after Playback or Recording has Started

Press the TAPE SIZE button once. If you accidentally set the wrong tape length, press the TAPE SIZE button again to set the correct length (without stopping playback or recording) to obtain the correct remaining time reading.

The remaining time is automatically recalculated when the remaining time counter reaches [6:00]. The display changes briefly to the tape's length [e.g.: C-60], then the new (more accurate) remaining time is displayed.

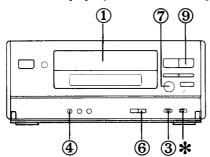
To Obtain the Most Accurate Time Indications Possible

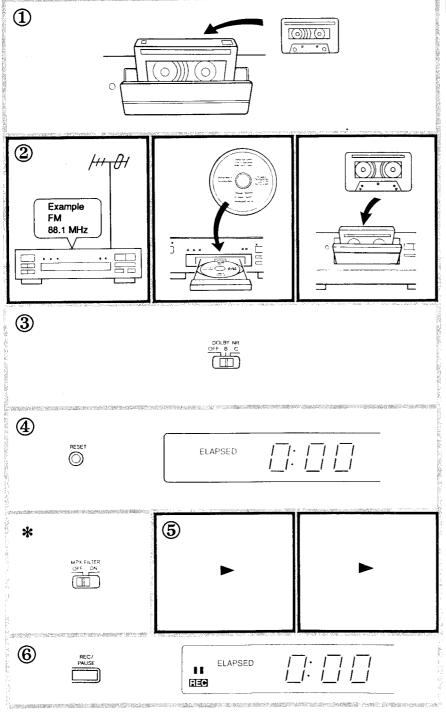
Press the TAPE SIZE button when the current side is almost finished playing. The deck will recalculate the remaining time and a more accurate indication will appear.

Recording

If recording does not begin even when the steps listed under "Recording" are followed:

- Check to see if one or both of the cassette's erasure prevention tabs have been broken off.
- Confirm that the cassette deck is properly connected to the amplifier and other components in the system.



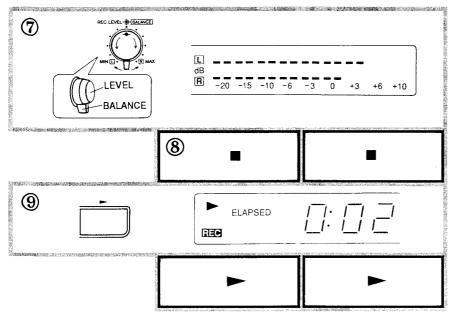


Recording

Confirm that the amplifier is set up correctly for recording. (Refer to the amplifier's instruction manual for details.)

- ① Insert a cassette. Make sure the side to be recorded is facing outward.
- 2 Prepare the source component to be used for the recording.
- Tune in the desired station on the tuner.
- Load a CD (or LP) into the CD player (or turntable).
- Load a cassette into the tupe player (analog or DAT).
- 3 Select the desired Dolby NR setting. Select the DOLBY B NR, DOLBY C NR or OFF position. (Refer to page 11 for details.)
- **®** Reset the Real Time Counter.
 - * If desired, the MPX FILTER SWITCH may be used when recording FM broadcasts. (Refer to page 11 for details.)
- (5) Initiate play on the source component.
- Press the REC/PAUSE button.

Illustrations enclosed in solid boxes indicate source component operations.



- While observing the peak level indicators, adjust the recording level and balance as appropriate.
- Adjust the outer knob so that the level of the left and right channels is approximately the same.
- Use the inner knob to adjust the recording level. Use the values listed below as guidelines.
- NORMAL (TYPE I), HIGH (TYPE II): The 0 dB indicator should be lit constantly and the +3 dB indicator should light from time to time.
- METAL TAPE (TYPE IV): The +3 dB indicator should be lit constantly and the +6 dB indicator should light from time to time.
- (See below for details.)
- 8 Put the source component into recording standby status.
- Temporarily stop CD (or LP) play.
- Rewind the tape to a position immediately preceding the portion you wish to play.
- Initiate play on the source component and press the PLAY button on the tape deck at the same time.

You can also use the CD Synchro Recording function if the tape deck is properly connected to an Onkyo CD player bearing the R mark.

Making Good Sounding Recordings

Dolby Noise Reduction Systems

Dolby B NR is the system used in most cassette tape decks to reduce the background noise that is inherent in all cassette tapes. Dolby Laboratories then developed an even more effective noise reduction system, Dolby C NR, in response to the demand for increasingly better sound quality from cassette tapes.

Both Dolby noise reduction systems operate by boosting signals during recording that fall below a certain input level. Dolby B and C NR operate on the higher portions of the frequency spectrum using what is called a "sliding band" technique. This is because tape hiss is most prominent during the quiet, high frequency portions of a recording. These same signals are then reduced back to their original strength during playback, thereby reducing the background noise by the same amount. In order to operate only when necessary, the Dolby NR system has a varying effect depending on the input level and frequency of the material being recorded.

Dolby C NR is capable of reducing tape hiss by 10dB more than Dolby B NR. In addition to its noise reduction function, Dolby C NR has an anti-saturation network that lowers high input levels before recording them and returns the signals to their original strength during playback. This raises the high-frequency saturation level of cassette tapes to allow you to record signals that would normally cause distortion. This system raises the maximum output level of cassette tapes by more than 4dB at 10kHz.

The Dolby HX Pro System

Tape sensitivity is constantly changing as recordings are made due to the biasing effect of high frequency audio signals. Dolby HX Pro is a system that compensates for these undesirable fluctuations during recording. It does not operate during playback, so cassettes recorded with Dolby HX Pro can be played back on decks not equipped with the system.

Note

Dolby HX Pro operates independently of Dolby B and C NR, and only during recording.

MPX Filter for Recording FM Broadcasts

When recording FM broadcasts using Dolby NR, the 19kHz pilot signal and the 38kHz subcarrier signal included in the FM broadcast signal can cause the Dolby circuitry to malfunction. This deck is equipped with an MPX FILTER switch to prevent this from occurring. The MPX FILTER switch should be ON when recording FM broadcasts using Dolby NR and OFF at all other times.

Setting the Proper Recording Level

The recording level has an important effect on the sound quality a tape will have when it is played back. A recording level that is too high will cause distortion while one which is too low will lower the signal-to-noise ratio resulting in a tape with excessive "hiss noise." It is particularly important to set the recording level correctly with cassette tapes since they have a much thinner magnetic coating than open reel tapes. The thin coating gives the tape a comparatively low saturation level which can easily be surpassed if the recording level is set too high.

The recording level indicators feature a peak-hold function for the indicators from -6 dB through +6 dB. This can come in handy when setting the recording level.

CD Synchro Recording System

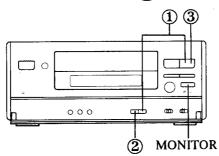
Once the K-611 is connected to a CD player bearing the R₁ mark (see page 13.), pressing the button of the CD player will cause recording to commence automatically on the K-611.

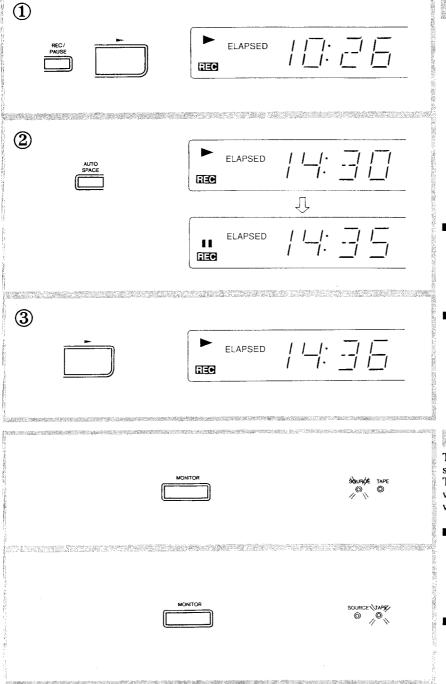
- 1. Insert a cassette with the side to be recorded facing out.
- 2. Start the CD player.
- 3. Press the REC/PAUSE button to put the unit into the recording standby mode. Adjust the input level. When the recording level has been set, stop the CD player.
- 4. Start the CD player again, and recording will begin simultaneously.

Notes

- 1. Even if the CD player is stopped during recording, the cassette deck will continue in the record mode.
- If the cassette deck is in the recording standby mode when the CD is put in PLAY, the deck will begin recording. When setting recording levels, always start the CD first.

Useful Recording Functions





Inserting Blank Spaces between Selections when Editing Tapes.

- ② Press the AUTO SPACE button at any point during a recording where you want to enter a blank section about five seconds long.
- The ➤ indicator flashes on and off.
- After the blank section has been inserted, tape transport stops automatically, the deck returns to the rec/pause standby mode.
- ③ To continue recording, press the ►Play button.
- The AUTO SPACE button works in both the record and rec/pause modes.
- To Insert a Blank Section of Tape Less Than Five Seconds Long

Press the REC/PAUSE button to return to the rec/pause standby mode or press the Play button before the five second period has elapsed.

■ To Insert a Blank Section of Tape More Than Five Seconds Long

Hold the AUTO SPACE button down for as long as you want the blank section to be. The deck will return to the rec/pause standby mode immediately when the button is released.

Monitoring the Recorded Signal.

This deck is a three-head deck, so by switching between the SOURCE and TAPE settings you can compare the signal which has just been recorded on the tape with the source signal.

 Listening to the Original Source Signal

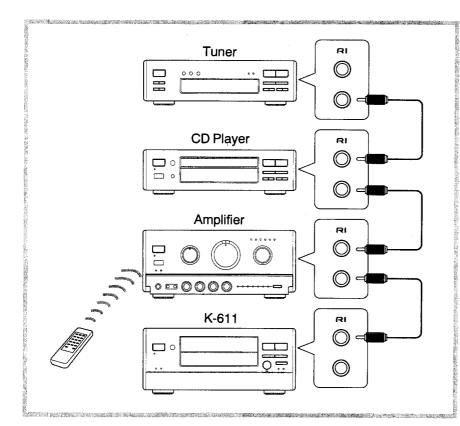
Press the MONITOR button so that the SOURCE indicator lights.
When the SOURCE indicator is lit the signal from the LINE IN jacks is output.

Listening to the Signal Just Recorded on the Tape.

Press the MONITOR button so that the TAPE indicator lights.
When the TAPE indicator is lit the just-recorded signal from the tape is output.

Connecting Series Components

If the K-611 is properly connected to another Onkyo component bearing the (R) mark, you will be able to control the K-611 using the other component's remote control.



For Remote Control Operation

The upper and lower remote control jacks have the same function

For remote control operation, connect this jack and any Onkyo amplifier, receiver or CD player bearing the RI mark using the remote control cable.

Note

Do not attempt to connect the RI remote control jack to any equipment other than an Onkyo component bearing the RI mark. Doing so could cause the unit to malfunction.

The functions listed below can be accomplished using the remote control of the master unit.

♣ : Open/Close
 ▶ : Play
 ← : Rewind
 ▶ : Fast forward
 ■ : Stop
 ◆/III : Rec/Pause

CD Synchro Recording System

Once connections are made as shown at left, this function becomes operational. It automatically starts recording on the cassette deck when the button of the CD player is pressed. (See page 11.)

If this unit, a tuner or a CD player from the Onkyo Liverpool Separate Collection Series is connected to an amplifer or receiver from the same series, the following functions are possible.

Timer Functions

Timer play (once): The component of your choice (CD player, tape deck or tuner) begins to play at a preset time designated by

Timer play (every day): The component of your choice (CD player, tape deck or tuner) begins to play each day at a preset time designated by you.

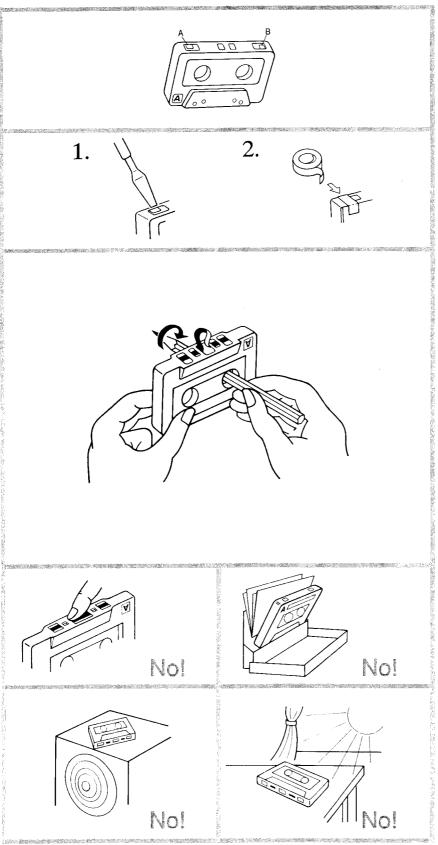
Timer recording: By setting up the timer and tuner properly you can automatically record radio broadcasts at times specified in advance.

Sleep timer: You can set the timer to shut off power to the system after a specific period of time has elapsed. The maximum sleep timer duration is 90 minutes.

 Refer to the instruction manual of the Onkyo Liverepool Separate Collection Series tuner for more detailed instructions.

Handling Cassette Tapes

Examine cassette tapes carefully before using them with the K-611.



Erasure Prevention

Cassette tapes are constructed with erasure prevention niches on the back edge that are initially covered by break-off tabs.

- 1 If you wish to protect a recording from accidental erasure, break off the tab(s) of the appropriate side(s). It will no longer be possible to use the Recording button with such a cassette.
- 2 If at some later date you wish to rerecord the cassette, simply cover the openings with small pieces of cellophane tape.

Tape Slack

Slack in the tape (tape not stretched tightly) can cause tangling around the pinch roller and capstan and jam the mechanism. Remove any tape slack with a pencil or similar device as shown in the diagram.

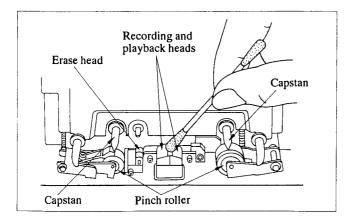
Tapes which are Not Recommended

- C120 tapes
 C120 tape is thin and therefore easily broken. There is a possibility that tape could get caught up by the pinch roller or capstan.
- 2. Endless tapes
 Do not use endless tapes

Tape Storage

- Do not touch the tape surface
- Do not put thick paper or cardboard labels in the cassette holder
- Do not put tapes near magnet ic sources (speakers, amplifiers, TVs, etc.) Your important recording might be crased or become damaged.
- Do not expose cassettes to direct sunlight.

Cassette Deck Maintenance



This deck requires no lubrication.

Head, Pinch Roller and Capstan Cleaning

Playback sound quality can be greatly diminished if magnetic particles are allowed to accumulate on the recording or playback heads. Be sure to clean the heads periodically, normally 2-3times a month, to maintain your deck's original performance. Dirty heads will cause:

• Poor sound quality (loss of high frequency response)

Decreased volume

Incomplete erasure of previous recordings

If the pinch rollers and capstan are dirty, the tape may become tangled and damaged by wrapping around the pinch roller and

To prevent these problems, clean the heads, pinch rollers and capstans with a cotton swab dipped in cleaning fluid.

Demagnetizing

Residual magnetism builds up in the heads after the cassette deck has been used for an extended period of time. This buildup introduces noise and static into tapes and impairs high frequency response. To prevent this, demagnetize the heads and the other metal parts in the area (like the capstan shafts) once every 50 hours of use. Keep the deck power off while using the demagnetizer. Also place tapes far away from the work area.

Specifications

Track Format: 4-tracks, 2-channels Erasing System: AC erase

Tape Speed: 4.8 cm/sec. (1-7/8 i.p.s.) 0.045% (WRMS) Wow and Flutter:

0.09 (DIN) 20-17,000Hz (normal) Frequency Response:

 $(30-16,000Hz \pm 3dB)$ 20-18,000Hz (high) $(30-17,000Hz \pm 3dB)$ 20-19,000Hz (metal) (30-18,000Hz ± 3 dB)

60dB (metal tape, Dolby NR off) S/N Ratio: A noise reduction of 10dB above

5kHz and 5dB at 1kHz is possible with Dolby B NR. A noise reduction of 20dB at 5kHz is possible with

Dolby C NR.

Input Jacks: LINE IN: 2 Input sensitivity: 80 mV

Input impedance: 50 kohms

Output Jacks: LINE OUT: 2 Standard output level: 500 mV

(0dB)

Optimum load impedance: over

50 kohms DC servo motor: 1

DC motor: 3

Heads: REC/PB: Special Hard Permalloy x 2 Erase head: Ferrite x 1

U.K. and Australian models

Power Supply Rating: AC 240 V 50 Hz

European models (Execpt U.K.) AC 230 V, 50Hz U.S.A. and Canadian models

AC 120 V, 60 Hz Worldwide models

AC 120 and 220 V, Switchable

50/60 Hz

Power Consumption: 14 watts

Motors:

275(W) x 120(H) x 314(D)nm Dimensions:

 $10^{13}/_{16}$ " x 4 $3/_{4}$ " x 12 $3/_{8}$

4.5 kg. (9.9 lbs.) Weight:

Specifications and external appearance are subject to change without notice because of product improvements.

Troubleshooting Guide

The following guide lists problems which do not require professional servicing. If, however, the problem cannot be remedied using this guide, contact an Onkyo authorized service center for assistance.

• No power.

Cause: Power cord plug is loose

Remedy: Insert plug properly into outlet.

• Playback but no sound.

Cause: Hookup incorrect.

Remedy: Check and hook up correctly according to page 5.

Cause: Stereo amplifier input selector switch is set to wrong

positon

Remedy: Change switch position.

• Tape does not move.

Cause: Slack tape wound around pinch roller.

Remedy: Take up slack with a pencil (see page 14).

• REC button does not engage.

Cause: No tape in cassette holder.

Remedy: Load cassette tape.

Cause: Erasure prevention tab(s) removed.

Remedy: Change cassette or cover tab hole with cel-

lophane tape.

• Hoarse sound, balance unstable.

Cause: Playback head dirty.

Remedy: Clean head (see page 15).

Cause: Tape is stretched.

Remedy: Replace cassette.

• Excessive noise and tape hiss.

Cause: Head has become magnetized.

Remedy: Demagnetize (see page 15).

Cause: Tape with high noise level.

Remedy: Replace cassette.

Distorted sound.

Cause: Distortion in tape.

Remedy: Tape is probably bad but confirm by listening to

another.

• Recordings are distorted.

Cause: Recording was done at too high a level.

Remedy: Readjust REC LEVEL knob according to the

directions on page 11.

• Tape squeal and skipping.

Cause: Dirty heads, pinch rollers or capstan shafts.

Remedy: Clean (see page 15).

Cause: Cassette shell is binding tape or tape is stretched.

Remedy: Change cassette or try correcting with fast for-

ward and rewind.

• Excessive hum during playback.

Cause: Connecting cables not inserted firmly.

Remedy: Insert plugs firmly.

Cause: External flux leakage from nearby amplifier or TV

set.

Remedy: Move deck away from hum source.

• High frequencies too strong.

Cause: Dolby NR encoded tape played back with NR off.

Remedy: Set the DOLBY NR switch to the proper position (Dolby B or C) for the tape being played back.

Cause: Incorrect equalization.

Remedy: Confirm that cassette has tape type detection holes

No high frequency sounds.

Cause: Non-Dolby NR encoded tape played back with

Dolby B or C NR on.

Remedy: Set the DOLBY NR switch to the proper position

(OFF) for the tape being played back.

Cause: Heads have become dirty. Remedy: Clean (see page 15).

• The skip function does not operate properly.

Cause: The silent sections between selections are too short

Remedy: Use a cassette with sufficiently silent sections of sufficient length between selections

• Deck does not operate properly.

Cause: Tape transport control microcomputer has been exposed to interference from power supply or static

electricity

Remedy: Unplug deck and plug back in.

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